State Revolving Fund Loan Programs
Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

Allen County Regional Water & Sewer District
Sewer Extensions to Five Areas & Treatment at Fort Wayne Wastewater Treatment Plant
State Revolving Fund Project # WW08 11 02 03

DATE: November 18, 2008

COMMENTS MUST BE RECEIVED BY: Dec 18, 2008

I. INTRODUCTION

The above entity has applied to the State Revolving Fund Loan Program (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund -- IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name:	**Proposed Sewer Extensions to Five Areas** Allen County Regional Water & Sewer District P.O. Box 11888 Fort Wayne, IN 46861-1888
SRF Project Number:	WW08 11 02 03
Authorized Representative:	Ric Zehr, President Board of Trustees

II. PROJECT LOCATION

Allen County Regional Water & Sewer District (ACRW&SD) is located in Allen County in northwest Indiana. The ACRW&SD study area and 20-year service area are one and the same and include all of the unincorporated areas within Allen County. The project proposes to install sanitary sewer systems in five project areas: Bostick Road Area, in the Poe USGS quadrangle within Marion Township, T29N, R13E, section 8; Bluffton Road-Dunkelberg Road-Villa Drive Area, in the Fort Wayne West USGS quadrangle, T30N, R12E, section 34 and T29N, R12E, sections 3 and 4 and also in the Ossian USGS quadrangle, T29N, R12E, sections 3 and 4, all within Pleasant Township; U.S. 27- Monroeville Road Area, in the Poe USGS quadrangle within Marion Township, T29N, R13E, sections 8, 9 and 17; Wayne Trace-Tillman Road-Trentman Road Area in the Fort Wayne East USGS quadrangle within Adams Township, T30N, R13E, sections 28, 29, 32 and 33 and in the Poe USGS quadrangle within Marion Township, T29N, R13E, sections 4 and 5; and Winchester Road-Dodane Road Area, in the northeast ¼ of the Ossian USGS quadrangle within Pleasant Township, entirely in the J.B. Richardville reservation east of T29N, R12E, sections 2, 11 and 14 (see figures 1 through 6).

III. PROJECT NEED AND PURPOSE

The ACRW&SD was formally organized on July 5, 1979 by the Indiana Stream Pollution Control Board for the purpose of providing collection and disposal of sewage for all of Allen County except for the following areas: (A) territories currently being served by the following municipal sewer utilities: (1) City of Fort Wayne, (2) City of New Haven, (3) City of Woodburn, (4) Town of Grabill, (5) Town of Huntertown, and (6) Town of Monroeville; (B) territories previously approved as planning areas or boundaries for (1) the Leo-Cedarville Regional Sewer District (RSD), (2) the Maysville RSD and (3) the Riverhaven RSD; and (C) areas reserved pursuant to a Certificate of Territorial Authority issued by the Indiana Public Service Commission to Diversified Utilities, Inc., Sewage Utilities of Indiana, Inc., Clearwater Utilities, Inc., and the Maplewood Park Utilities, Inc. The majority of sanitary sewage systems within the District have been constructed of polyvinyl chlorinated (PVC) pipe with "O" ring joints. The District's collection system also has sixty-six pumping stations.

The ACRW&SD currently owns and operates sanitary sewer collection systems in ten separate regions throughout the county. In six of these service areas, the District acts as a billing agent for the collection of capital debt service charges and treatment fees, as well as, providing for the operation, maintenance and replacement costs associated with these systems. These sewer systems include the following areas: Arcola, Hoagland, Mayhew, Hessen Cassel, Canyon Run, and Muldoon Road. The remaining four areas (Wheatridge Road, Beineke Drive, North Woodland Heights and Ridgeway) are directly connected to Fort Wayne's collection system, billed directly by Fort Wayne and have their systems operated and maintained by Fort Wayne. The District will eventually relinquish ownership of those four collection systems to Fort Wayne following retirement of the debt associated with each area. In the Hoagland area, the District operates a four-cell waste stabilization lagoon treatment facility. This is currently the sole independent facility installed and operated by the District. Maintenance responsibilities are performed by a private contractor (Severn Trent Services, Inc.), who is responsible for the day-to-day operation of the sanitary sewer systems, pumping stations and the wastewater treatment facility in Hoagland.

Due to failing septic systems and more stringent septic system regulations, the District has been approached on a regular basis by residents within the county to have sewers extended to their areas. The following areas are currently seeking sanitary sewers:

The Bluffton Road-Dunkelberg Road-Villa Drive Area has 33 individual on-site septic systems. Nineteen structures have a filter bed system; 68 percent were installed prior to 1985 and no systems have been installed since 1999.

The Bostick Road Area has 10 individual on-site septic systems. Four structures have filter bed systems; 50 percent were installed prior to 1985 and no systems have been installed since 1999.

The U.S. 27 –Monroeville Road Area has 46 individual on-site septic systems. Twenty-five structures have a filter bed system; 50 percent were installed prior to 1985 and no systems have been installed since 1999.

The Wayne Trace-Tillman Road-Trentman Road Area has 91 individual on-site septic systems. The Fort Wayne Department of Health confirmed thirty-eight structures with failed systems. Sixty-five structures have a filter bed system; 69 percent were installed prior to 1985 and five structures have installed systems since 1999.

The Winchester Road-Dodane Area has 53 individual on-site septic systems. Thirty-three structures have a filter bed system; 52 percent were installed prior to 1985 and five structures installed systems since 1999.

The Fort Wayne – Allen County Department of Health (DOH) investigated the on-site systems in each of the five proposed service areas. In correspondence dated March 6, 2008, the DOH stated: "*...this Department has documentation of failed septic systems that are creating public health hazards in all of these areas. Further, we recognize public sewer as the best solution to the problems in these areas, and fully support the ACRW&SD in their on-going efforts to clean up these non-point source pollutants.*"

The DOH also conducted *E. coli* sampling at various outfalls discharging into nearby ditches and streams within each area:

Four sites tested near the Bluffton Road-Dunkelberg Road-Villa Drive Area yielded 4,000 to 73,000 colony forming units (cfu) /100 milliliter (ml).

Two sites tested near the Bostick Road Area yielded 28,000 to 1,030,000 cfu/100 ml.

Six sites tested near the U.S. 27-Monroeville Road Area yielded 2,000 to greater than 2,000,000 cfu/100 ml.

Thirteen sites tested near the Wayne Trace-Tillman Road-Trentman Road Area yielded 2,800 to greater than 2,000,000 cfu/100 ml.

Thirteen sites tested near the Winchester Road-Dodane Road Area yielded 1,000 to 900,000 cfu/100 ml.

Based on the testing data and the current standard for clean water of 235 cfu/100 ml of *E.coli* bacteria, the inadequate sewage disposal in the proposed service areas represents a significant health and safety risk to area residents, as well as contributing to water quality degradation in nearby ditches and streams. In addition, the lack of adequate separation between failed septic systems and potable water wells creates a drinking water quality concern.

IV. PROJECT DESCRIPTION

The proposed project will provide municipal sanitary sewer service to the five areas described above. The District intends to install gravity or low-pressure sanitary sewer collection systems; the systems will connect with an existing treatment provider.

A. Bluffton Road-Dunkelberg Road-Villa Drive Area sanitary sewer system includes (see Figure 7):

1. Approximately 5,650 feet of 8-inch polyvinyl chloride (PVC) sanitary sewer;
2. Approximately 19 manholes;
3. Approximately thirty-three 8-inch by 6-inch wyes;
4. Approximately 400 feet of 6-inch PVC service laterals (open cut);
5. Approximately 200 feet of 6-inch PVC service laterals (bored);
6. Approximately 750 cubic yards of special backfill; and
7. Approximately 75 square yards of asphalt pavement replacement.

B. Bostick Road Area sanitary sewer system includes (see Figure 8):

1. Approximately 3,000 feet of 2-inch PVC force main;
2. Approximately one air release valve manhole;
3. Approximately six grinder pump stations rated at 30 gallons per minute (gpm) each with electrical connections and 1½-inch check valve assemblies;
4. Approximately 350 feet of 1½ inch pressure service line;
5. Approximately 80 feet of 4-inch PVC service laterals;

6. Approximately 250 cubic yards of special backfill;

7. Approximately 50 square yards of asphalt pavement replacement;

8. Approximately two electrical service drops;

9. Approximately 2,000 feet of electrical conductor cable; and

10. One connection to a new manhole at the Southcrest Mobile Home Park.

C. U.S. 27-Monroeville Road Area sanitary sewer system includes (see Figure 9):

1. Approximately 1,850 feet of 3-inch PVC force main;

2. Approximately 2,670 feet of 2-inch PVC force main;

3. Approximately two cleanouts;

4. Approximately two air release valve manholes;

5. Approximately 21 grinder pump stations rated at 30 gpm each with electrical connections and 1½-inch check valve assemblies;

6. Approximately 2,500 feet of 1½-inch pressure service line (open cut);

7. Approximately 550 feet of 1½-inch pressure service line (bored);

8. Approximately 400 feet of 4-inch PVC service laterals;

9. Approximately 1,000 cubic yards of special backfill;

10. Approximately 200 square yards of asphalt pavement replacement;

11. Approximately nine electrical service drops; and

12. Approximately 3,900 feet of electrical conductor cable.

D. Wayne Trace-Tillman Road-Trentman Road Area sanitary sewer system includes (see Figure 10):

1. Approximately 13,500 feet of 8-inch PVC sanitary sewer;

2. Approximately 2,280 feet of 4-inch PVC or high density polyethylene (HDPE) force main;

3. Approximately 38 manholes;

4. Approximately ninety-one 8-inch x 6-inch wyes;

5. Approximately 2,000 feet of 6-inch PVC service laterals;

6. Approximately 2,750 cubic yards of special backfill;

7. Approximately 650 square yards of asphalt pavement replacement; and

8. Two grinder pump stations rated at 80 gpm each.

E. Winchester Road-Dodane Road Area sanitary sewer system includes (see Figure 11):

1. Approximately 2,080 feet of 4-inch PVC force main;
2. Approximately 3,500 feet of 3-inch PVC force main;
3. Approximately 2,000 feet of 2-inch PVC force main;
4. Approximately three cleanouts;
5. Approximately four air release valve manholes;
6. Approximately 26 grinder pump stations rated at 30 gpm each with electrical connections and 1½-inch check valve assemblies;
7. Approximately 2,750 feet of 1½-inch pressure sewer line;
8. Approximately 600 feet of 4-inch PVC service laterals;
9. Approximately 750 cubic yards of special backfill;
10. Approximately 200 square yards of asphalt pavement replacement;
11. One flow metering structure with appurtenances;
12. Approximately 12 electrical service drops; and
13. Approximately 6,500 feet of electrical conductor cable.

The preliminary design flow for each of the proposed new service areas is as follows:

(1) Bluffton Road-Dunkelberg Road-Villa Drive Area--estimated average design flow of 10,230 gallons per day (gpd) and an estimated peak flow of 40,920 gpd;

(2) Bostick Road Area--estimated average design flow of 3,100 gpd and an estimated peak flow of 12,400 gpd;

(3) U.S. 27-Monroeville Road Area--estimated average design flow of 14,260 gpd and an estimated peak flow of 57,040 gpd;

(4) Wayne Trace-Tillman Road-Trentman Road Area--estimated average design flow of 28,210 gpd and an estimated peak flow of 112,840 gpd; and

(5) Winchester Road-Dodane Road--estimated average design flow of 16,430 gpd and an estimated peak flow of 65,720 gpd.

The organic loadings associated with the raw sewage from each project area are assumed to be approximately:

5 day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$)--200 milligrams per liter (mg/l);
Total Suspended Solids (TSS)--200 mg/l; and
Ammonia-Nitrogen (NH3-N)--20 mg/l.

V. ESTIMATED PROJECT COSTS, AFFORDABILITY AND FUNDING

A. Selected Plan Estimated Cost Summary

Project Areas	Estimated Cost
1. Bluffton Road-Dunkelberg Road-Villa Drive Area	$296,000
2. Bostick Road Area	107,500
3. U.S. 27-Monroeville Road Area	335,000
4. Wayne Trace-Tillman Road-Trentman Road Area	784,400
5. Winchester Road-Dodane Road Area	445,000
Subtotal Construction Cost	$1,967,900
Contingency	118,900
Total Estimated Construction Cost	**$2,086,800**
Non Construction Items	
Engineering and Inspection Fees	$ 282,900
Bond Counsel, Attorney, and Financial Advisor	55,300
Subtotal Non-Construction Cost	**$ 338,200**
Total Estimated Project Cost	**$ 2,425,000**

B. ACRW&SD will borrow approximately $2,425,000 from the State Revolving Fund (SRF) Loan Program for a 20-year term at a fixed interest rate to be determined at loan closing.

As part of an interlocal agreement that has not been finalized, the flow from these five areas will be treated at the Fort Wayne wastewater treatment plant and rates will be established. The SRF will not close the loan with the District until the interlocal agreement between the District and Fort Wayne is executed and submitted to the SRF.

VI. DESCRIPTION OF EVALUATED ALTERNATIVES

The District evaluated the "No-Action" Alternative and different sanitary sewer alternatives for two of the project areas: U.S. 27-Monroeville Road and Wayne Trace-Tillman Road-Trentman Road. The No-Action alternative was eliminated from consideration for all five project areas, since failing on-site septic systems would continue to discharge inadequately treated sewage into nearby streams or ditches and cause a potential public health problem.

Bluffton Road-Dunkelberg Road-Villa Drive Project Area: The conventional gravity sewer system was the only collection system alternative evaluated due to topography and the nearness of the homes to one another.

Bostick Road Project Area: Due to topography and widely separated homes, the low pressure grinder pump system was the only collection system alternative evaluated. The proposed system will connect to the Hessen Cassel service area, and from there, the wastewater will be transported to Fort Wayne's collection system.

U.S. 27-Monroeville Road Project Area: Both the conventional gravity collection system and the low pressure grinder pump system alternative were evaluated. Based on cost, the low pressure grinder pump alternative was selected. Like the previous project area, the proposed low pressure grinder pump system will discharge into the Hessen Cassel service area and thence to Fort Wayne's collection system.

Wayne Trace-Tillman Road-Trentman Road Project Area: A combination of a mostly conventional gravity sewer system , coupled with a low pressure grinder system, was evaluated for this project area. Four connection points were evaluated with the connection at Manhole No.S31004 on Tillman Road being the selected connection point, based on cost.

Winchester Road-Dodane Road Project Area: The only alternative evaluated for the collection system alternative was the low pressure grinder pump system, due to topography and the widely separated homes.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

Disturbed and Undisturbed Areas: The proposed sewer extension projects will be constructed within existing previously disturbed road rights-of-way or within disturbed utility corridors.

Historical/Architectural Sites (Figures 1 through 6 (topographic maps) and 7 through 11 (project layout maps): The District's engineering consultant has incorporated historic sites as shown on maps at the IDNR Division of Historic Preservation and Archaeology into the referenced graphics; there were no sites listed in the Bluffton Road-Dunkleburg Road-Villa Drive area (figures 2 & 7). The projects will not affect historic sites; any visual or audible or atmospheric impacts will be temporary and will not alter the characteristics of historic sites. The SRF's finding pursuant to Section 106 of the National Historic Preservation Act is: "no historic properties affected."

Plant and Animals: The construction and operation of the sanitary sewer projects will not negatively impact state or federally listed endangered species or their habitat.

Prime Farmland: The proposed projects will not cause a conversion of prime farmland.

Wetlands (Figures 12 through 15): The proposed projects will not affect wetlands. In the Wayne Trace-Tillman Road-Trentman Road Project Area, a sewer line will cross a riverine wetland (R2UBH) at Jacob Koehlinger Ditch (aka known as Houk Ditch); this line will be directionally drilled under the Ditch to avoid impacting this wetland. The line under Trier Ditch in the same project area may also be drilled.

100-Year Floodplain (Figures 16 through 19): Some of the sewer lines for the Wayne Trace-Tillman Road-Trentman Road project area will be located within the 100-year floodplain; however, since the lines will be underground, no displacement of flood waters will occur. The control panel for the proposed duplex grinder pump station will be elevated above the level of the 100-year flood.

Surface Waters: The proposed projects will not affect Natural, Scenic and Recreational Rivers, and Streams, Exceptional Use Streams, or Outstanding State Resource Waters.

Groundwater: The proposed projects will not impact groundwater, including sole source aquifers. Dewatering during excavation of sewer trenches or grinder pump stations may occur in those areas with a high groundwater table. No sole source aquifers will be affected by the proposed projects.

Air Quality: The proposed projects will not adversely affect air quality.

Open Space and Recreational Opportunities: The proposed project's construction will neither create nor destroy open space and/or recreational opportunities.

National Natural Landmarks: The construction and operation of the proposed projects will not impact National Natural Landmarks.

The project will not affect the Lake Michigan Coastal Management Zone.

B. Secondary Impacts

The District's Preliminary Engineering Report (PER) states: *The proposed sanitary sewer system projects will allow the District to provide sewer service to* [five] *new regions outside of established municipal service areas. The new sanitary sewage systems will eliminate failing, on-site septic systems and provide users with municipal sanitary sewer service. It is unknown whether or not these sanitary sewer systems will create or attract new development. It is dependent more so on the location of the service area and the availability of undeveloped land adjacent to the sewers within the new service area. The District will ensure, through the authority of its Board and local zoning laws, that future development will not adversely impact environmental sensitive areas by enforcing the requirements and guidelines of the IDNR, U.S. Fish & Wildlife Service, IDEM, and the Allen County Drainage Board.*

C. Comments from Environmental Review Authorities

This document serves as the first notice to the State Historic Preservation Officer, the Indiana Department of Natural Resources Environmental Unit and the U. S. Fish and Wildlife Service.

In correspondence dated October 29, 2008, the Natural Resources Conservation Service stated: *The revised project to construct new water* [sic] *mains and make water* [sic] *treatment* [sic] *facility improvements in Allen County, Indiana, as referred to in your letter dated September 29, 2008, will not cause a conversion of prime farmland.*

VIII. MITIGATION MEASURES

The District's PER lists the following mitigation measures:

The project areas will comply with IDEM's Rule 5 requirements with respect to the mitigation of soil erosion and a detailed plan will be submitted for approval with the completed plans and specifications. The contractor will comply with all of the provisions of IDEM's Rule 5 with respect to erosion control measures.

Mitigation measures cited in typical comment letters from the Indiana Department of Environmental Management concerning the use of straw bale barriers, silt fencing or earthen berms to prevent soil erosion will be incorporated into the erosion control plans and specifications and implemented during construction. Careful preparation of the plans and specifications will ensure that soil erosion is kept to a minimum.

Mitigation measures to lessen impacts to wetlands during construction typically cited in comment letters from the Indiana Department of Environmental Management, the Indiana Department of Natural Resources and the U.S. Fish & wildlife Service will be implemented. Permits will be solicited, if necessary, from the Army Corps of Engineers and the IDNR.

Mitigation measures concerning soil erosion cited in typical comment letters from IDEM and the Indiana Department of Natural Resources will be implemented during construction.

Exhausts of construction equipment will be required to have mufflers for noise and air pollution abatement.

All bare and disturbed areas will be revegetated with a mixture of grasses and legumes upon completion of construction.

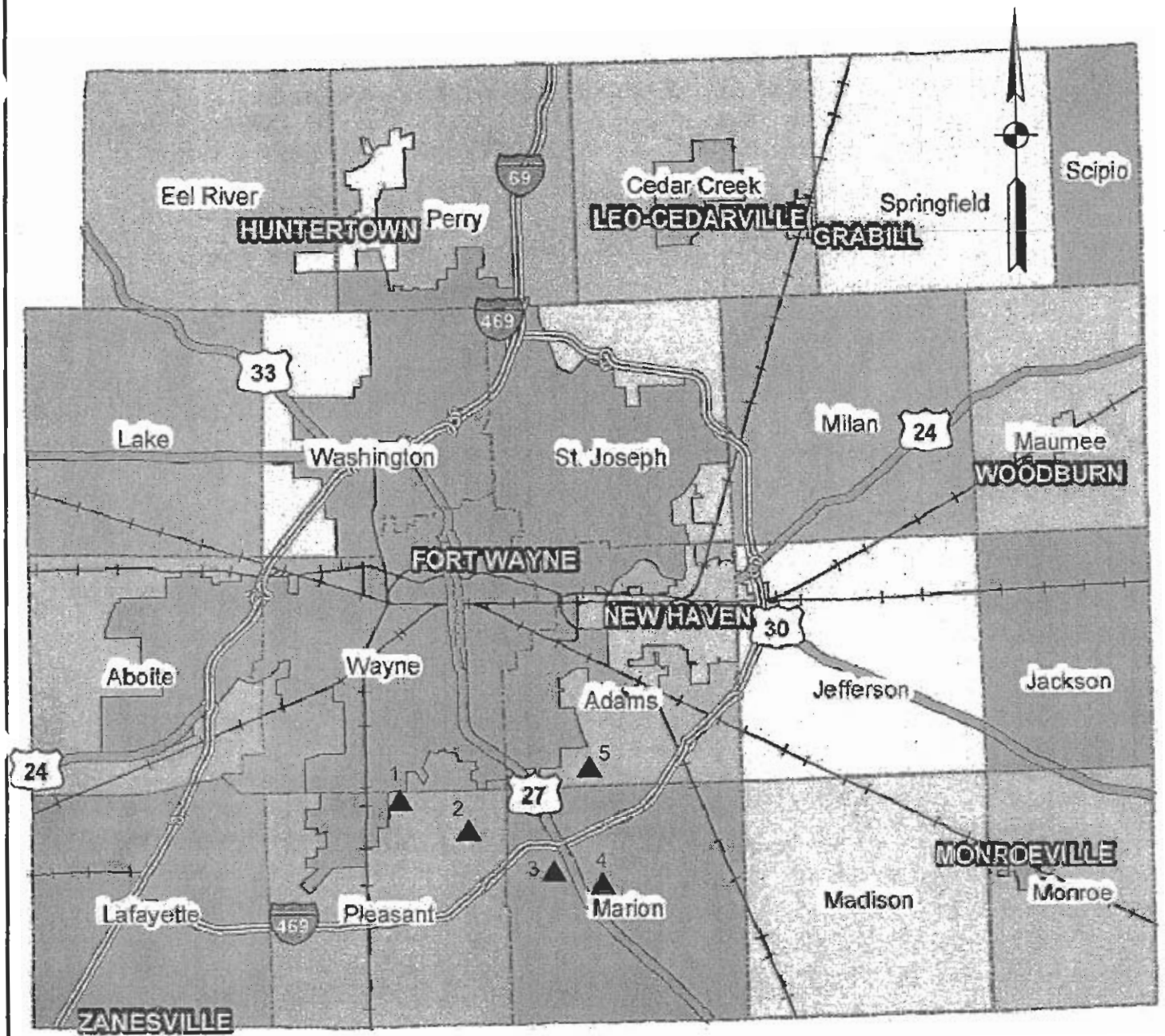
Minimal or zero tree removal is scheduled to occur as a part of this project and the removal will be mitigated per recommendations typically set forth by the IDNR.

To minimize non-conformance with 326 IAC 6-4, "Fugitive Dust Emissions", reasonable and proper construction techniques and clean-up practices will be provided. In addition, wetting, sweeping streets and/or chemical stabilizers (calcium chloride) will be used to control dust generated during all phases of the proposed projects. Open burning of construction debris will not be permitted.

Mitigation measures typically cited in comment letters from the Indiana Department of Environmental Management, the Indiana Department of Natural Resources and the U.S. Fish and Wildlife Service will be implemented.

IX. PUBLIC PARTICIPATION

A properly publicized public hearing was held at 12:30 p.m., on May 28, 2008, at the Commissioner's Courtroom of the Fort Wayne City-County Building. The only question raised during the hearing questioned the "no environmental impact" portion of the project summary with respect to providing sanitary sewer service to the Cedar Shores and Cedar Canyons areas. Since the District has decided to remove these two project areas from consideration for SRF funding at this time, this is no longer an issue.



▲ LOCATIONS

1 - BLUFFTON/DUNKELBERG/VILLA DRIVE
2 - WINCHESTER/DODANE ROAD
3 - BOSTICK ROAD
4 - U.S. 27/MONROEVILLE ROAD
5 - WAYNE TRACE/TILLMAN/TRENTMAN/MAPLES ROAD

0 17000'
8500'

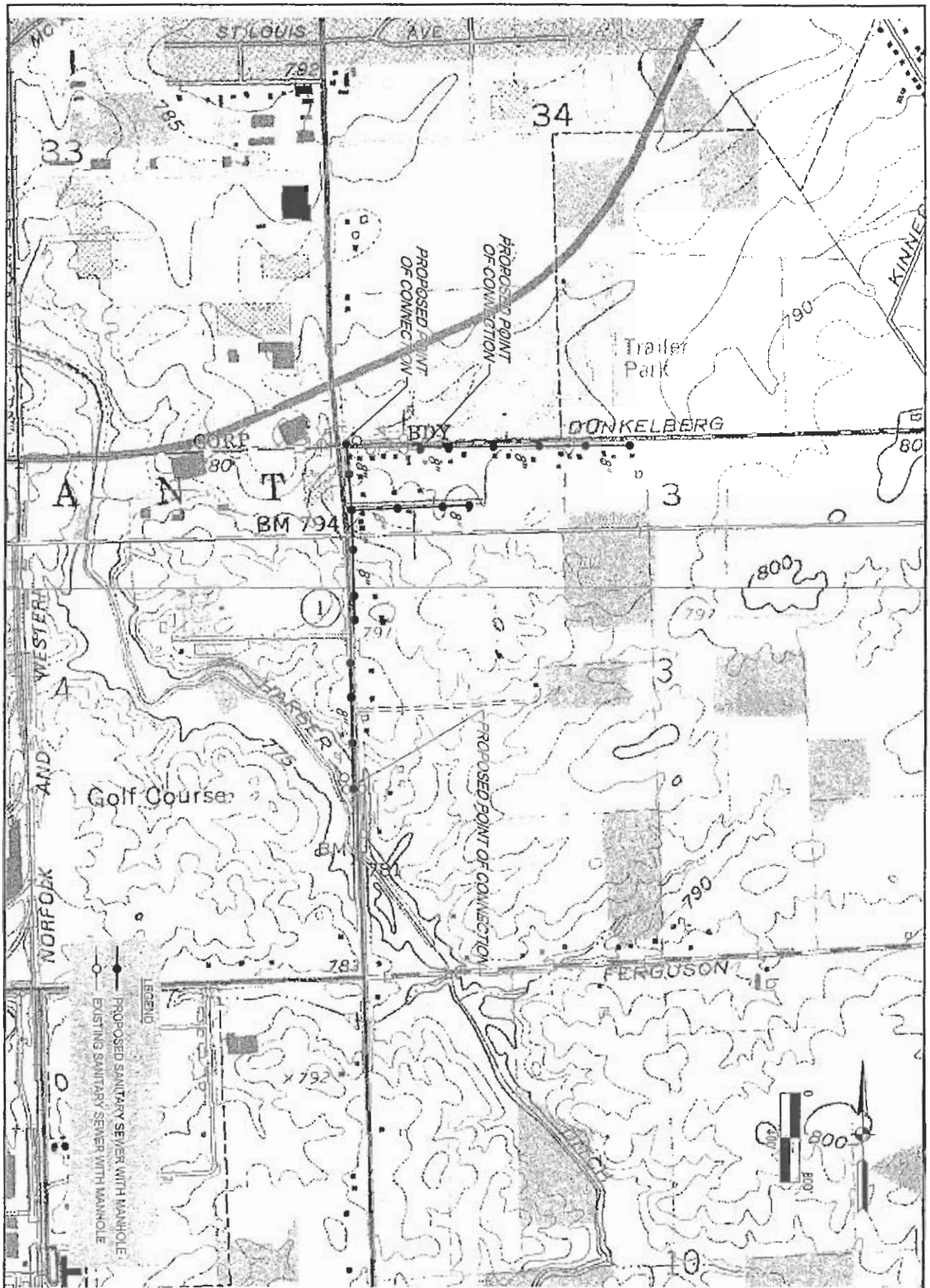
REVISED 11/6/08

COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER IMPROVEMENTS

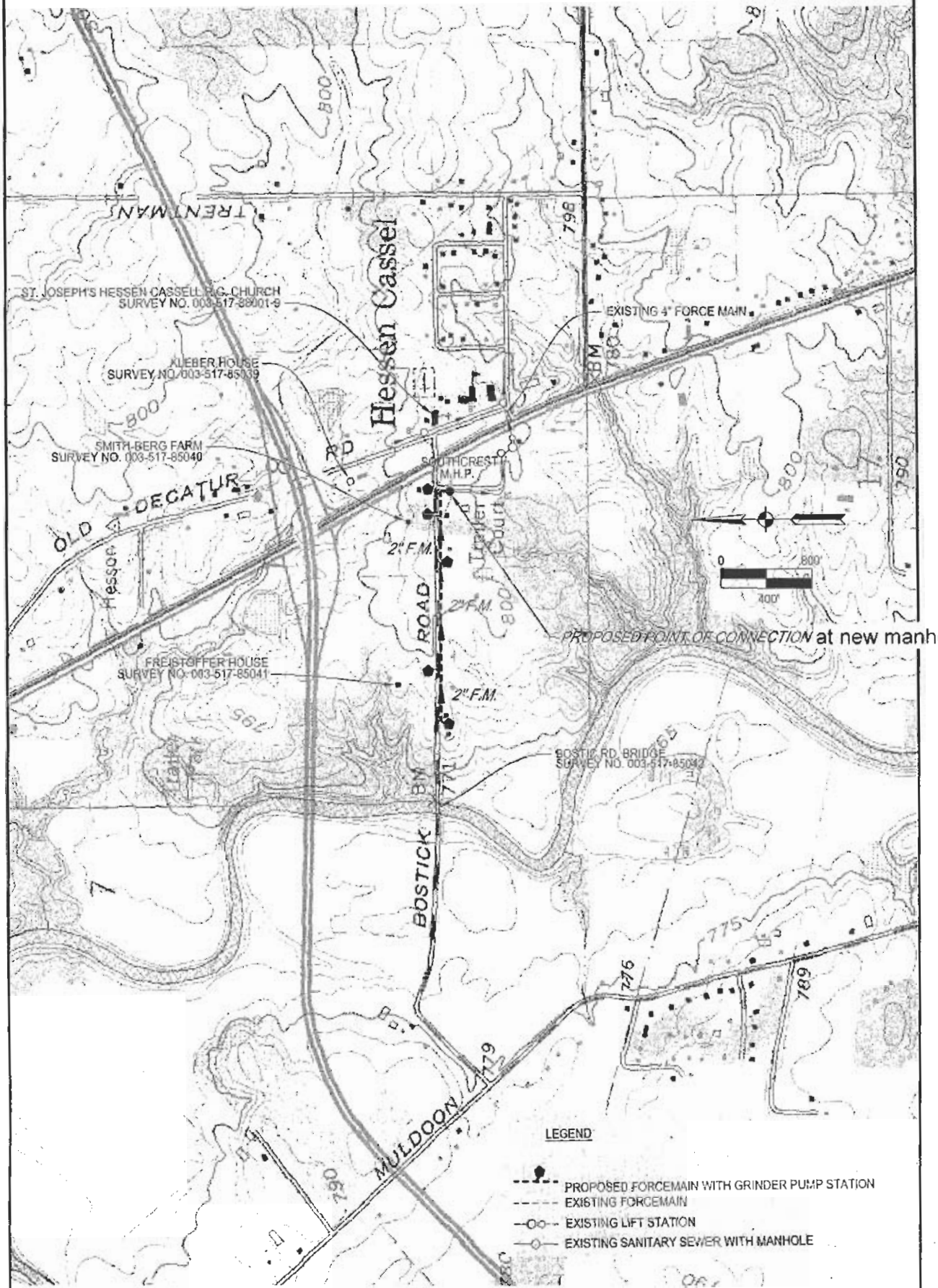
GENERAL PROPOSED DISTRICT SERVICE AREAS - ALLEN COUNTY

FIGURE 1



REVISED 8/29/08

2	FIGURE	COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS - BLUFFTON ROAD-DUNKELBURG ROAD- VILLA DRIVE SERVICE AREA



REVISED 8/29/08 & 11/11/08

COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS	FIGURE
	BOSTICK ROAD SERVICE AREA	3

REVISED 8/29/08

4	FIGURE	COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS - MONROEVILLE ROAD-U.S. #27 SERVICE AREA

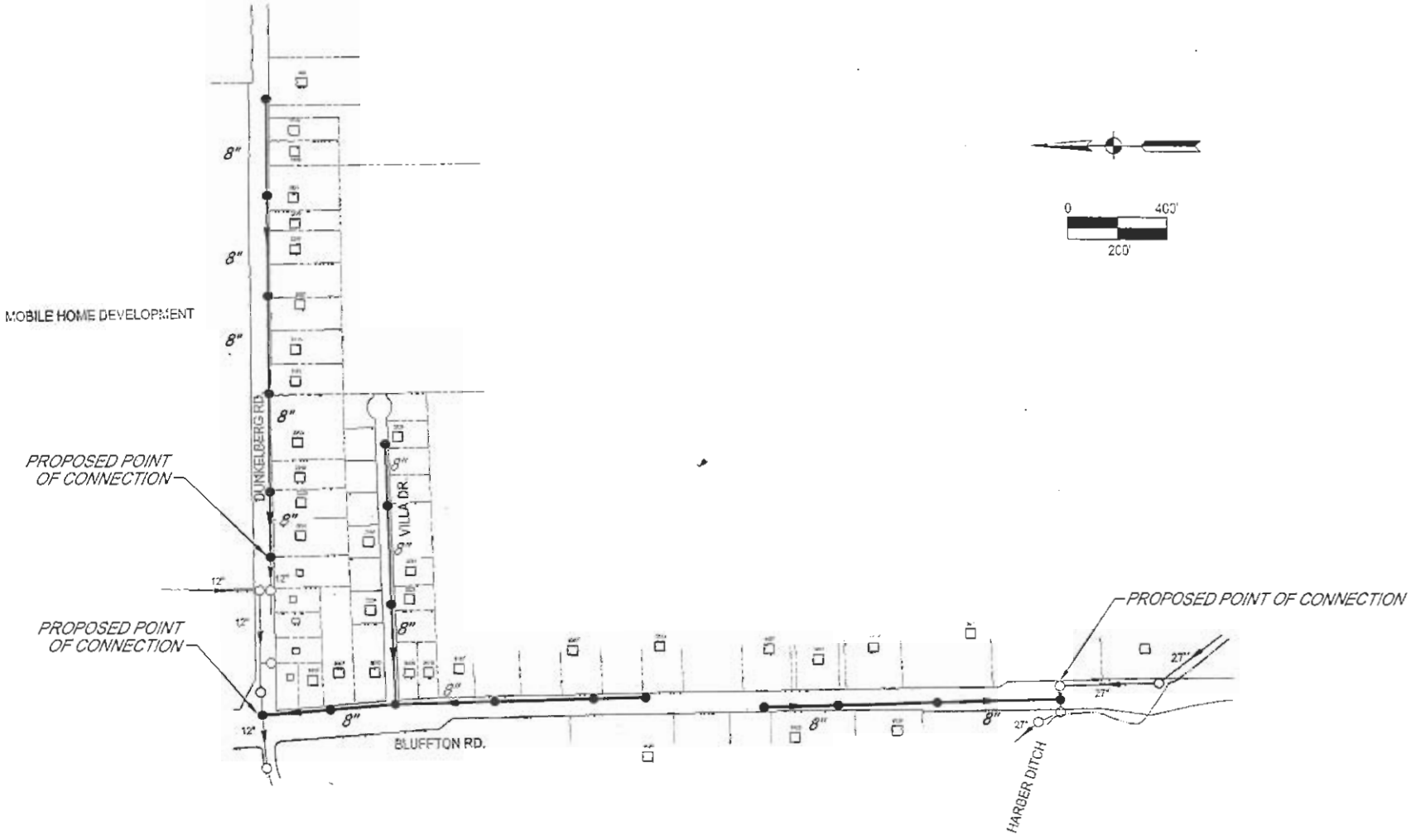
FIGURE 5

COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

- TILLMAN ROAD-TRENTMAN ROAD-
WAYNE TRACE ROAD SERVICE AREA

6	FIGURE	COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS - WINCHESTER ROAD-DODANE ROAD SERVICE AREA



REVISED 8/23/06

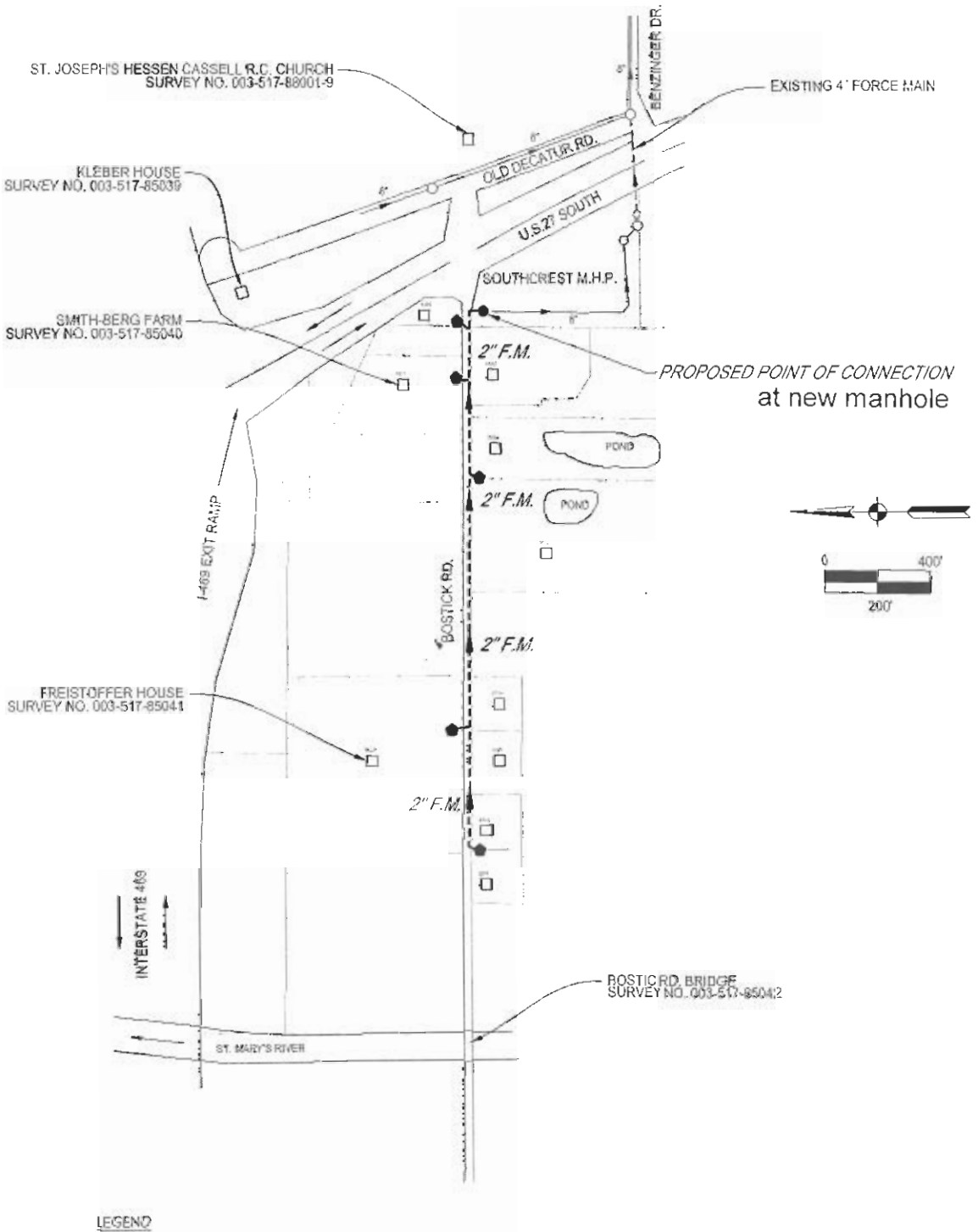
ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

BLUFFTON ROAD-DUNKELBURG ROAD-
VILLA DRIVE SERVICE AREA

COMMONWEALTH ENGINEERS, INC.

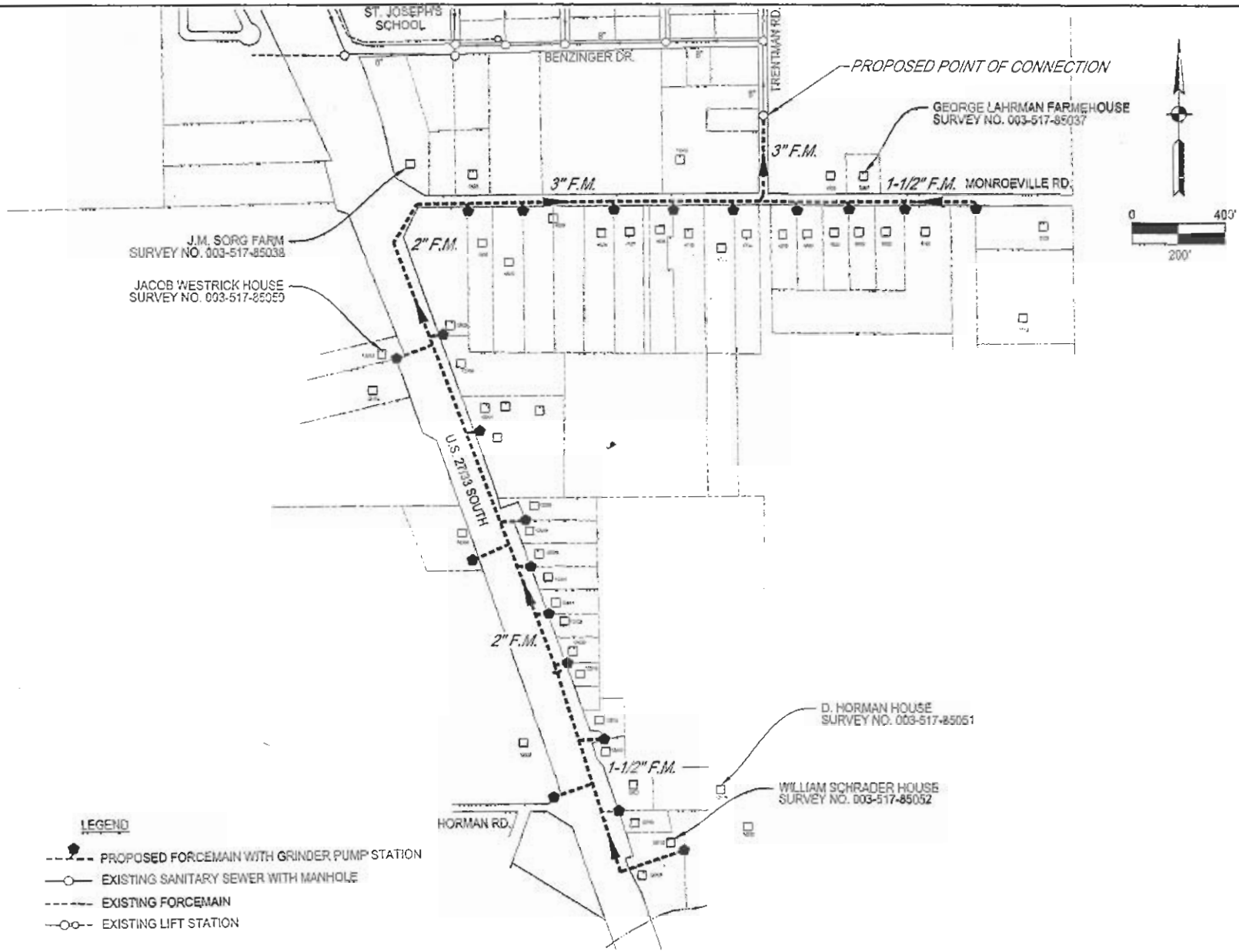
FIGURE

7



REVISED 8/29/08 + 11/11/08

COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS BOSTICK ROAD SERVICE AREA	FIGURE 8



ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

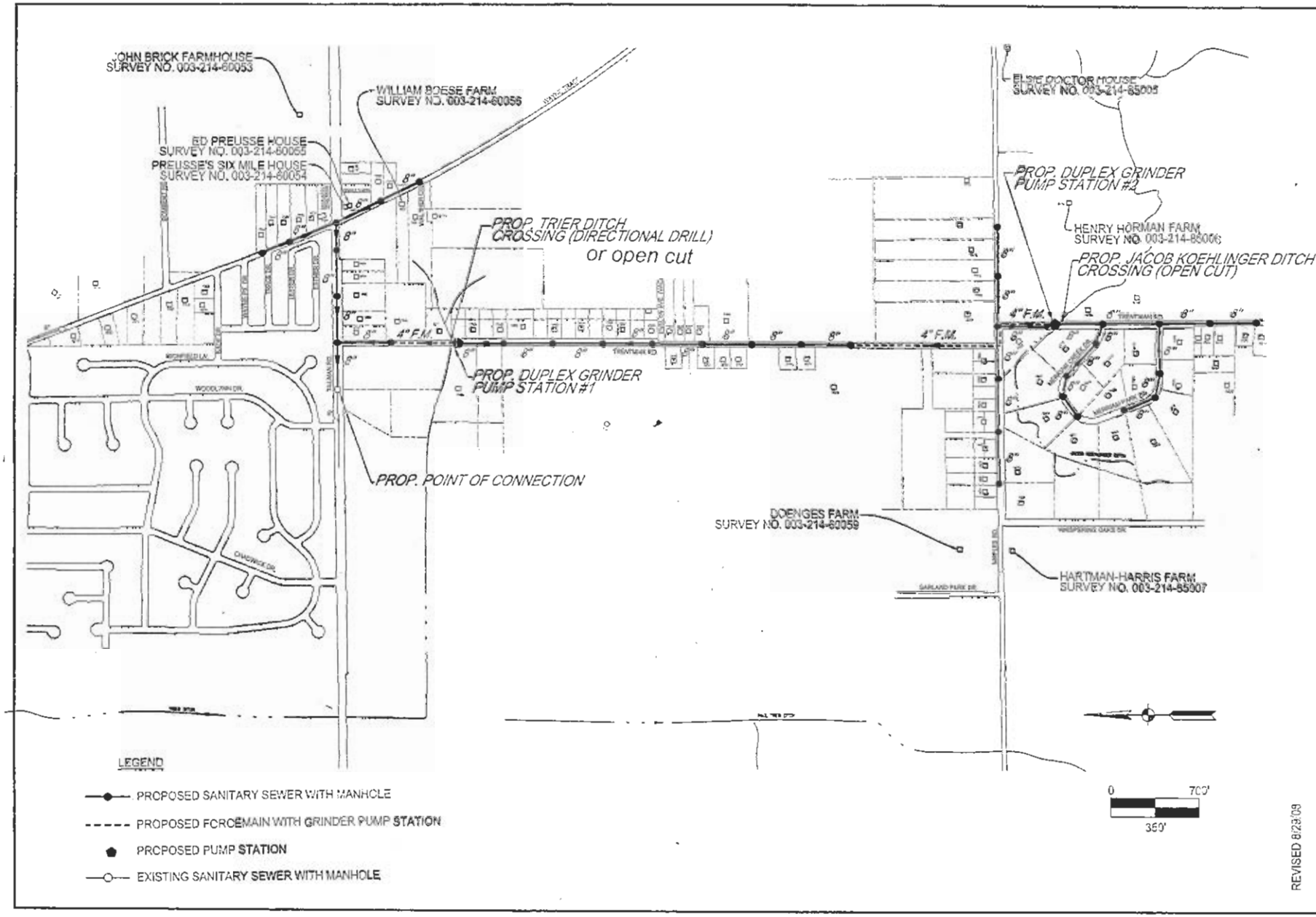
- - MONROEVILLE ROAD-U.S. #27
SERVICE AREA

COMMONWEALTH ENGINEERS, INC.

FIGURE

9

REVISED 8/29/08



REVISED 8/23/09

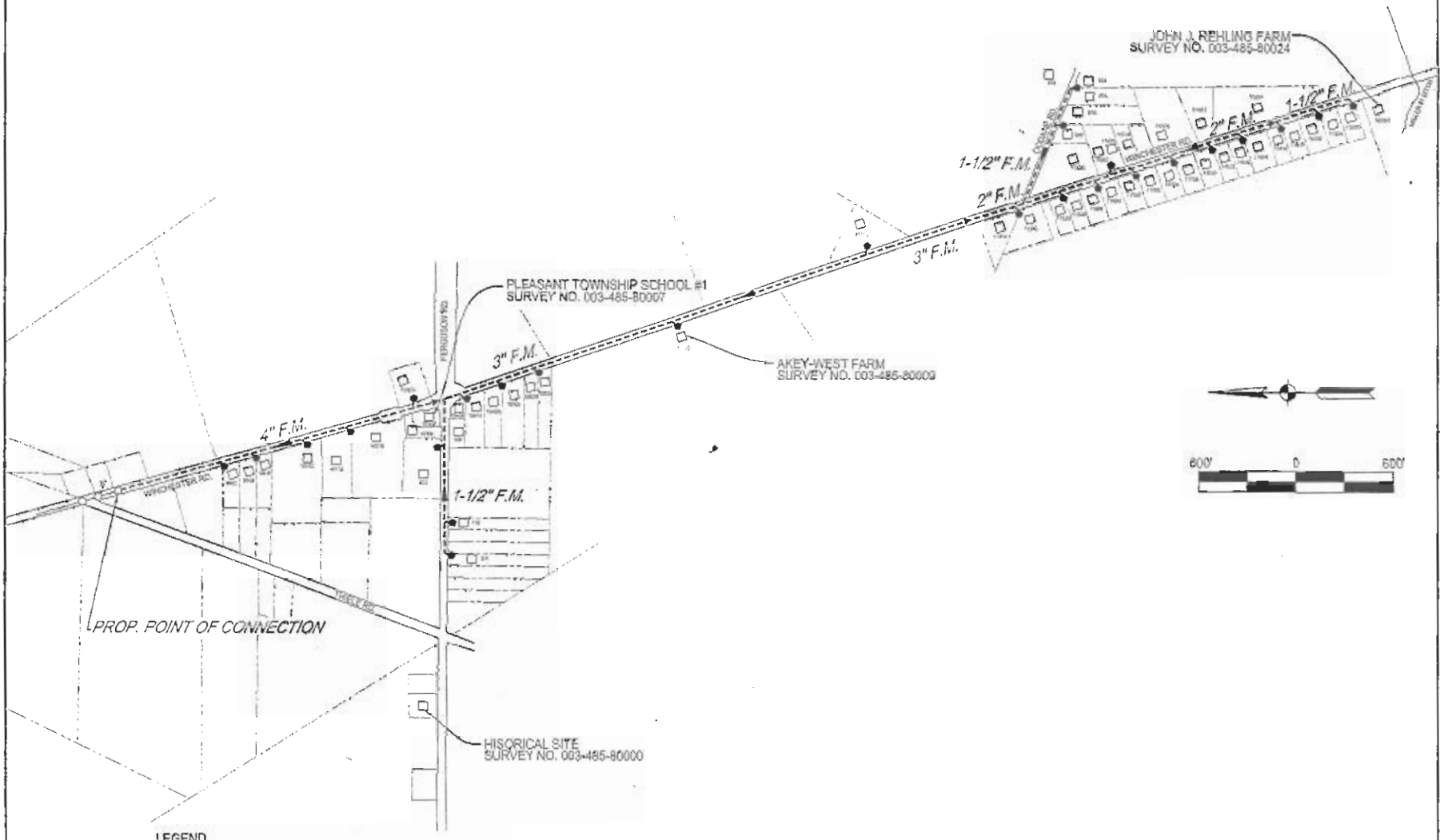
ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

- TILLMAN ROAD-TRENTMAN ROAD-
WAYNE TRACE ROAD SERVICE AREA

COMMONWEALTH ENGINEERS, INC.

FIGURE

10



ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

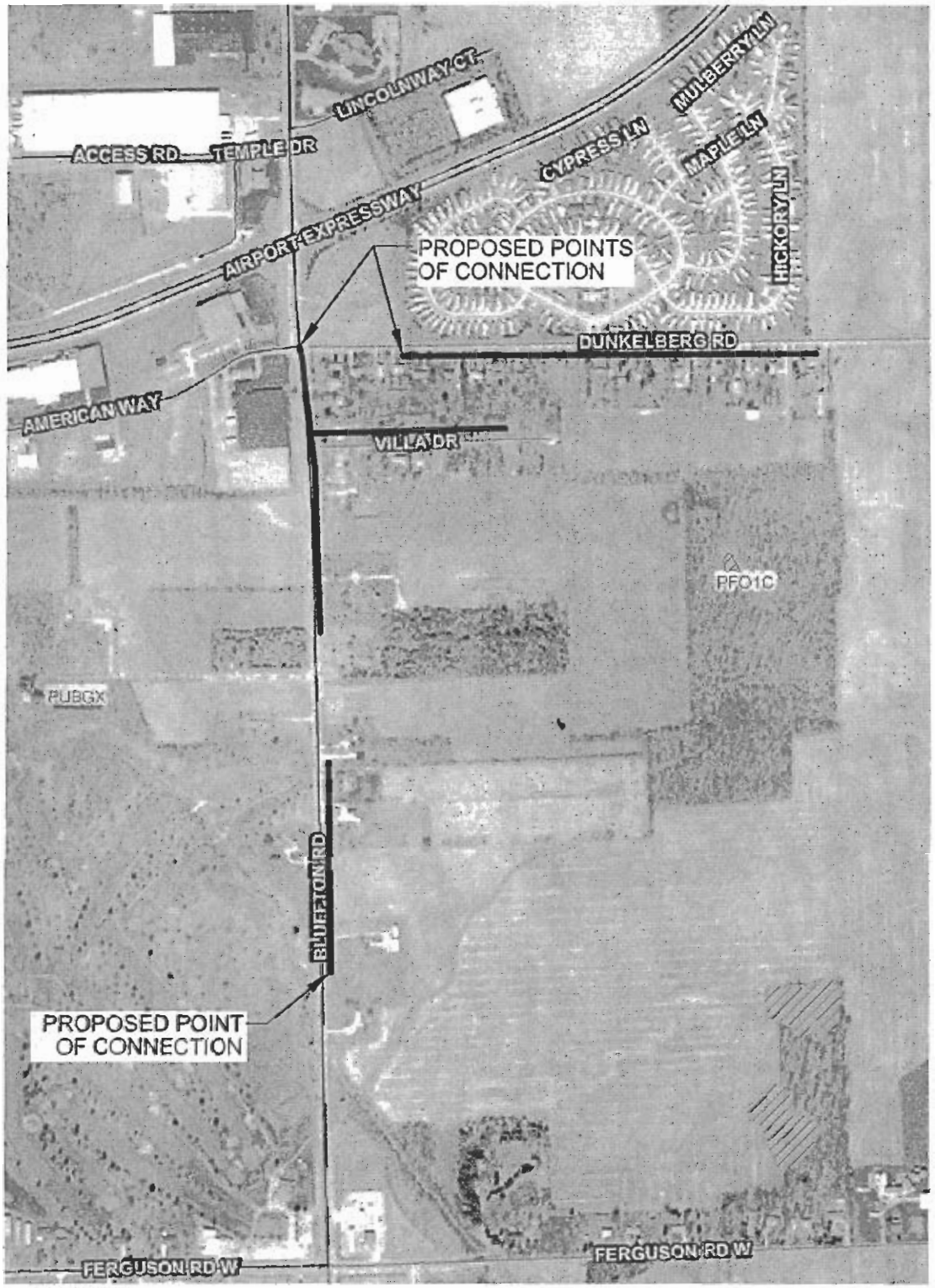
- WINCHESTER ROAD-DODANE ROAD
SERVICE AREA

COMMONWEALTH ENGINEERS, INC.

FIGURE

11

REVISED 8/29/08



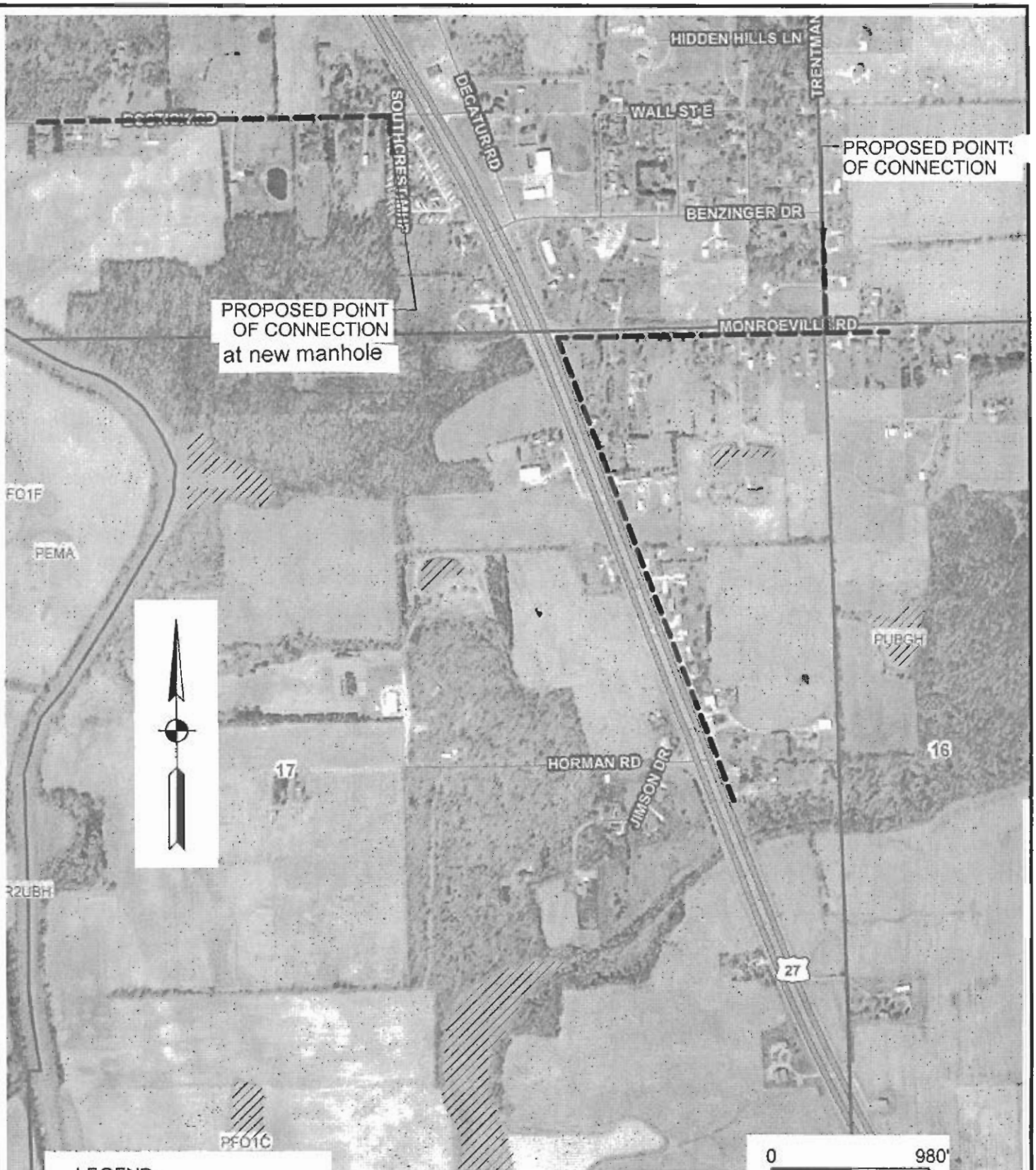
LEGEND

PROPOSED SANITARY SEWER

0 980'

490'

COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS BLUFFTON ROAD-DUNKELBURG ROAD VILLA DRIVE - WETLANDS MAP	FIGURE 12



LEGEND

PROPOSED FORCEMAIN

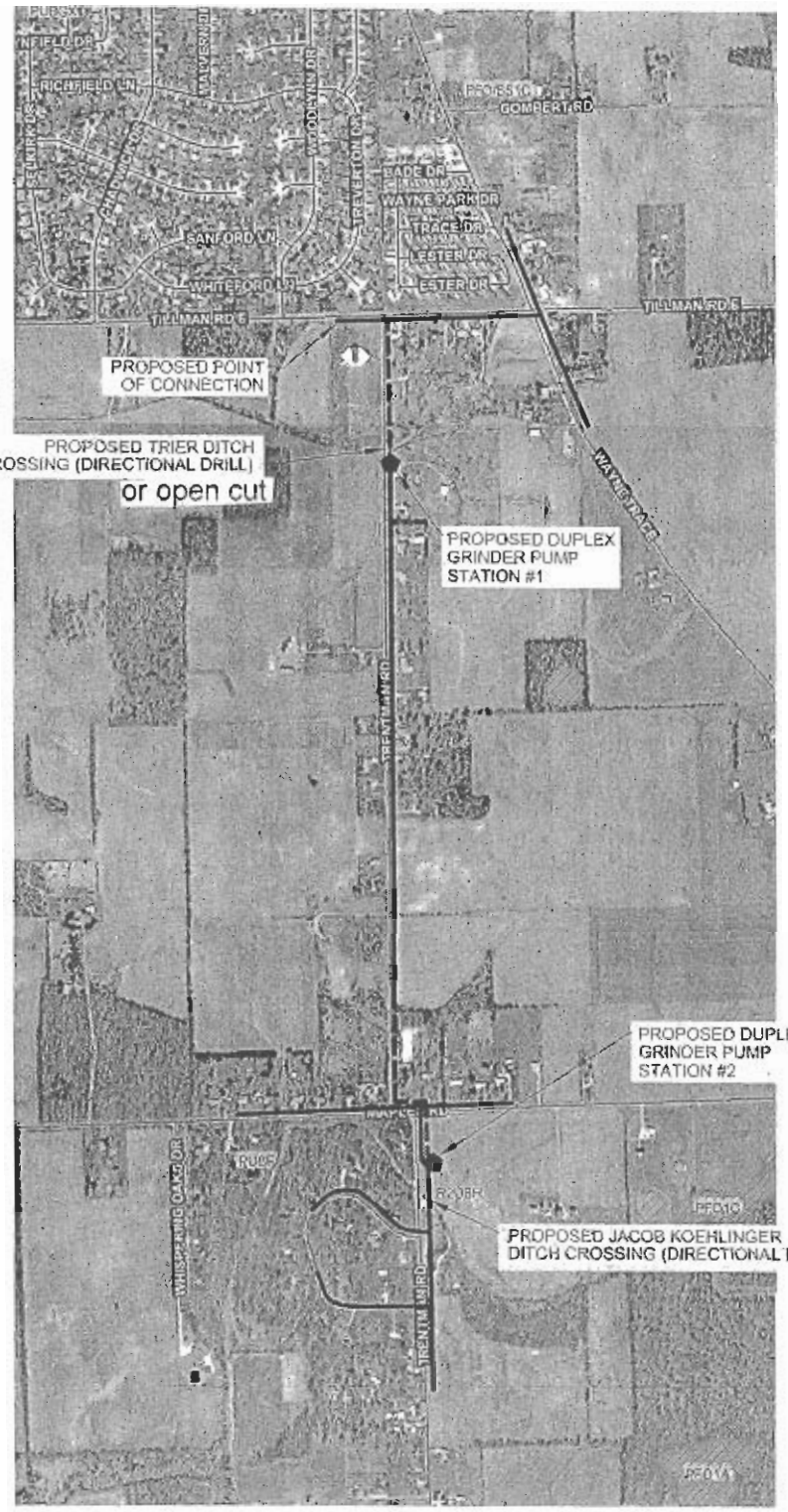
REVISED 8/29/08
REVISED 11/11/08

COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

BOSTICK ROAD & MONROEVILLE ROAD-U.S. #27
- WETLANDS MAP

FIGURE
13



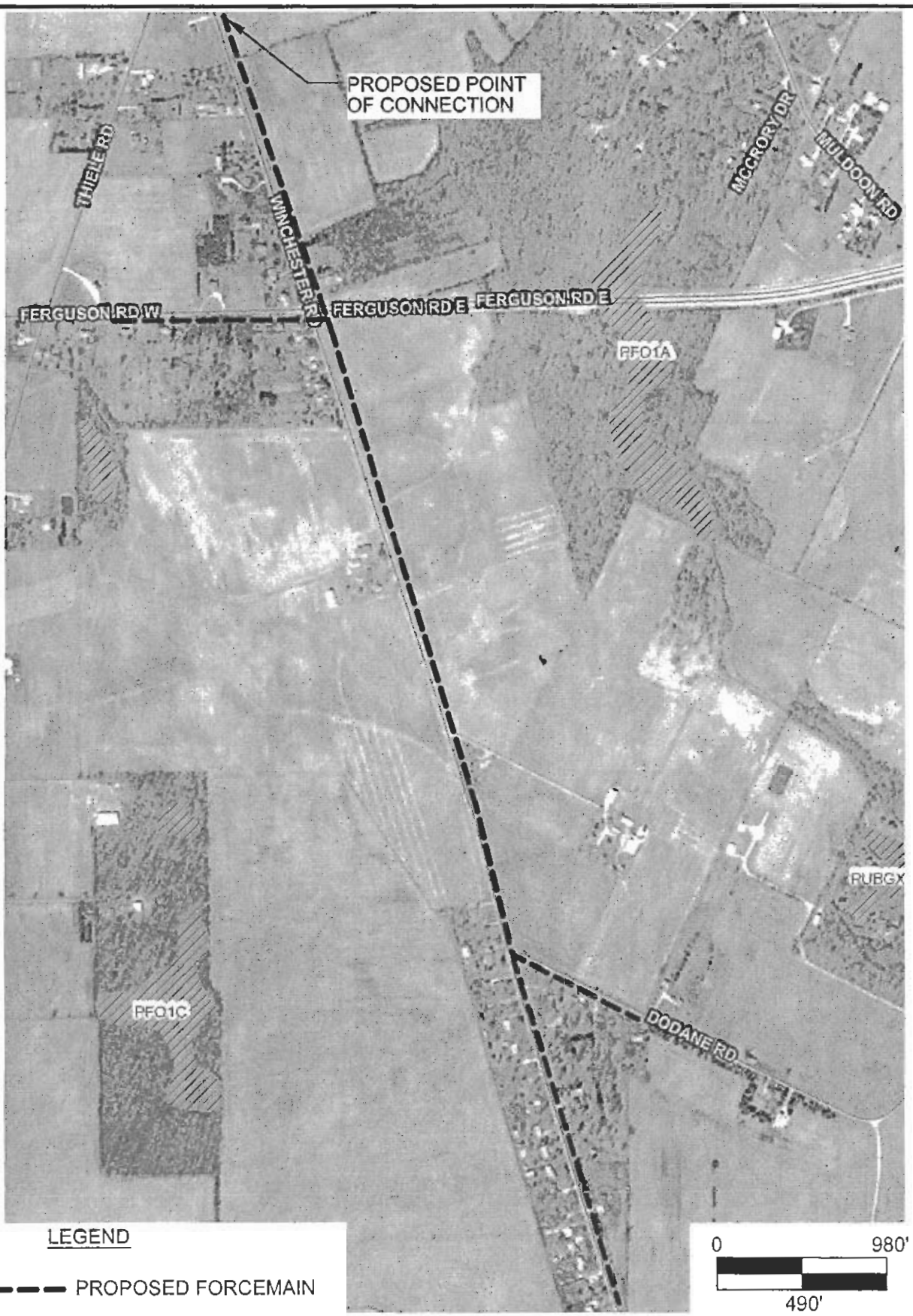
LEGEND

- PROPOSED SANITARY SEWER
- PROPOSED FORCEMAIN
- PROPOSED LIFT STATION

0 980' 490'

REVISED 8/29/08

COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS - WAYNE TRACE ROAD-TILLMAN ROAD-TRENTMAN ROAD - WETLANDS MAP	FIGURE 14

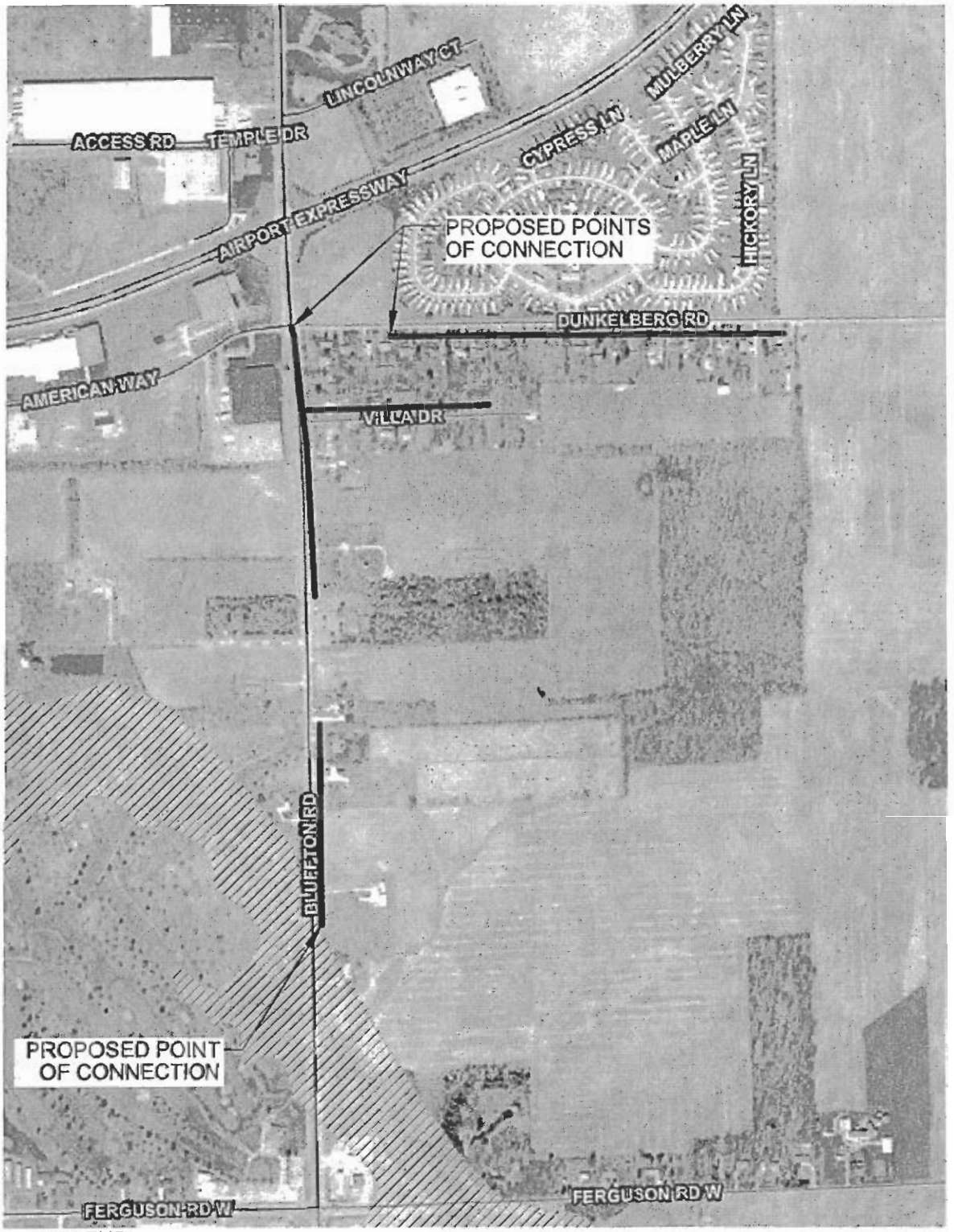


COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

WINCHESTER ROAD-DODANE ROAD
- WETLANDS MAP

FIGURE
15



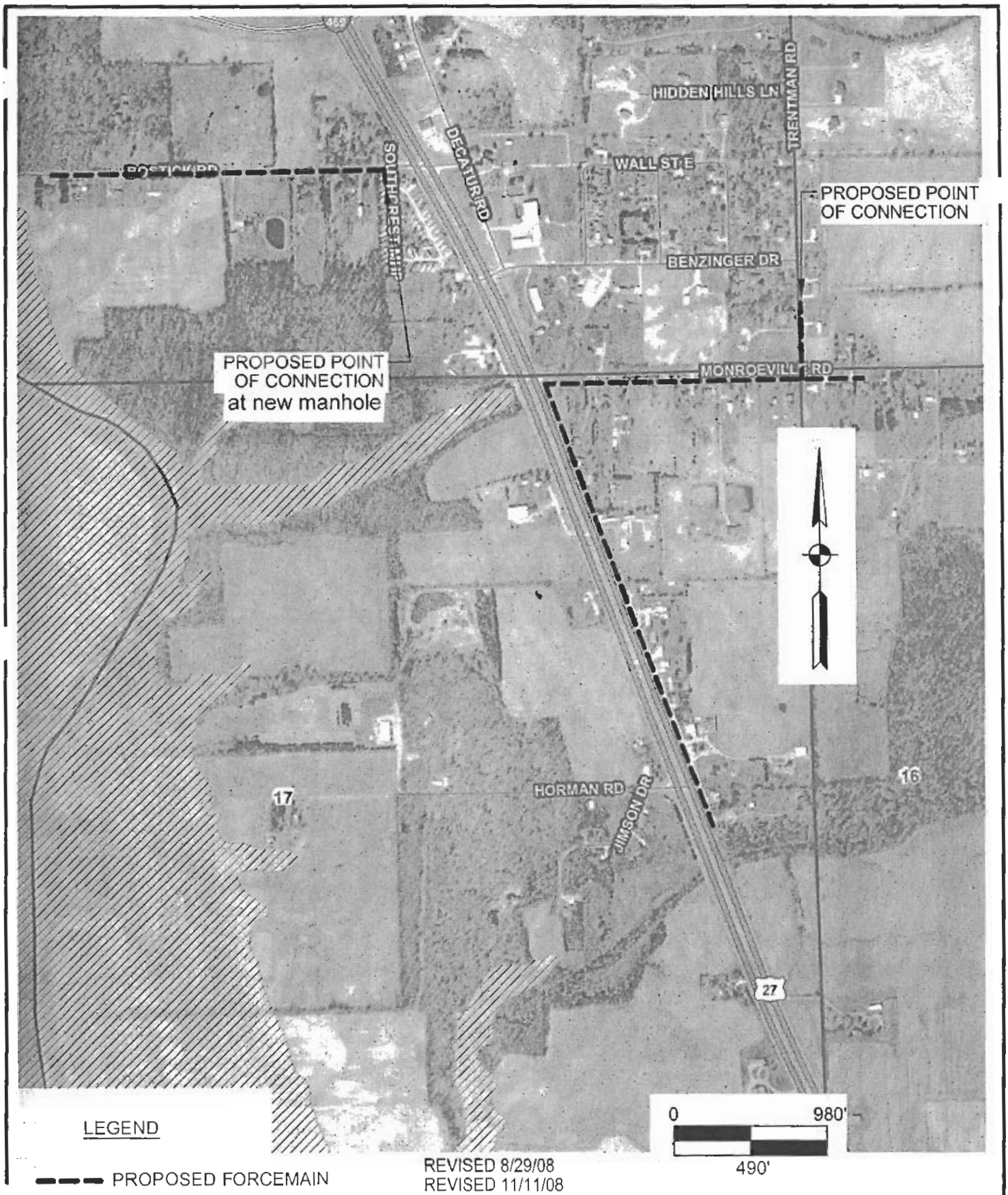
LEGEND

PROPOSED SANITARY SEWER

0 980'

490'

COMMONWEALTH ENGINEERS, INC.	ACRWSD - PRELIMINARY ENGINEERING REPORT SANITARY SEWER SYSTEM IMPROVEMENTS - BLUFFTON ROAD-DUNKELBURG ROAD- VILLA DRIVE - FLOODPLAINS MAP	FIGURE 16



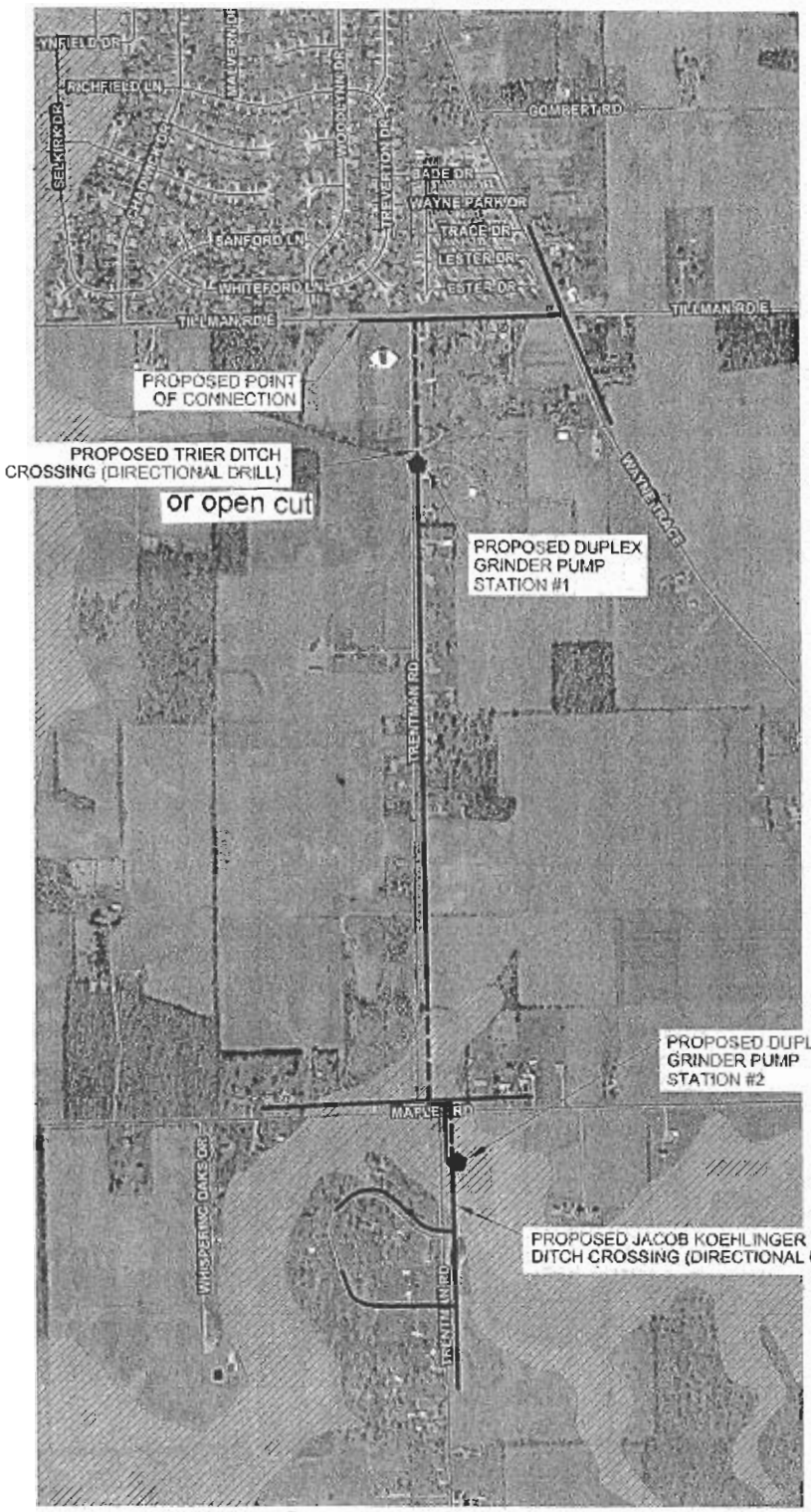
COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

- BOSTICK ROAD & MONROEVILLE ROAD-U.S. #27
- FLOODPLAIN MAP

FIGURE

17



LEGEND

- PROPOSED SANITARY SEWER
- PROPOSED FORCEMAIN
- PROPOSED PUMP STATION

0 980'
490'

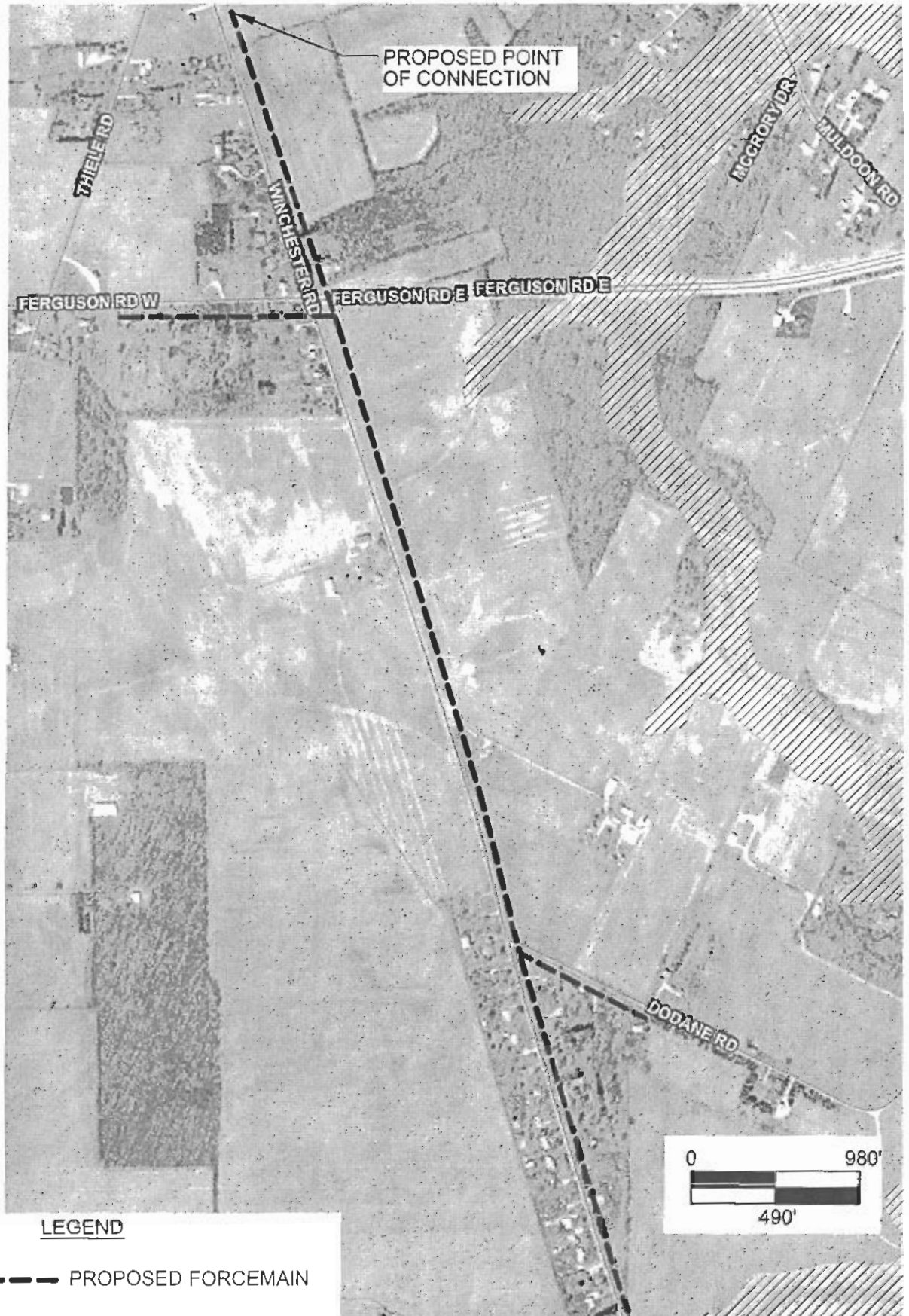
REVISED 8/29/08

COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

- WAYNE TRACE ROAD-TILLMAN ROAD-TRENTMAN ROAD
- FLOODPLAIN MAP

FIGURE 18



COMMONWEALTH ENGINEERS, INC.

ACRWSD - PRELIMINARY ENGINEERING REPORT
SANITARY SEWER SYSTEM IMPROVEMENTS

WINCHESTER ROAD-DODANE ROAD
- FLOODPLAIN MAP

FIGURE
19